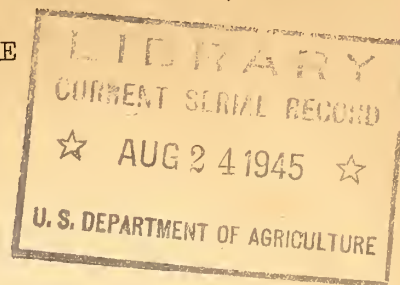


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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
Bureau of Animal Industry

THE BELTSVILLE SMALL WHITE TURKEY
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During the last 15 years there has been a simultaneous increase in the number of turkeys raised and in the average body weight of turkeys produced. Prior to the war the demand for large turkeys had not kept pace with the production of them which resulted in a price differential of from 1 to 6 cents per pound in favor of smaller market turkeys for family use. During the period of meat shortage in the war emergency there has been a great increase in the demand for the heavier birds by institutional users and this demand obliterated the prewar price differential. However, the demand for smaller sized turkeys on the part of family consumers seems to be based on sound considerations and is likely to restore the prewar price differential when meat supplies equal or exceed demand.

To meet the need for a family-size, handy-weight bird, the U.S. Department of Agriculture initiated in 1934, at the Agricultural Research Center, Beltsville, Md., an experimental project on the development of a small-type turkey. By 1941 a small-type turkey had been developed which satisfactorily met the specifications that had been set up for a bird of this type and distribution of surplus eggs was begun to State agricultural colleges for further testing under general field conditions. Since then the Bureau has continued to distribute surplus eggs to the State stations and through them the stock is gradually reaching turkey breeders throughout the United States.

The Bronze, White Holland, and Black varieties, the wild turkey, and White Austrian turkeys imported from Scotland were first used in the development of this small-type turkey. Later, in 1943, Broad Breasted Bronze blood was introduced. Breeding work is continuing with the latter introduction in the hope of still further improving the type.

Characteristics of the Beltsville Small White Turkey

Specific standards of weight, conformation, and performance have been established for the new type of turkey as follows:

Weight at market age (24-26 weeks):

<u>Live weight</u>	<u>Dressed weight (undrawn)</u>
Young toms, 12 to 17 pounds, average 15 pounds	10-1/2 to 15 pounds, average 13 pounds
Young hens, 7-1/2 to 10 pounds, average 9 pounds	6-1/2 to 9 pounds, average 8 pounds

Weight at 34 weeks (midwinter or "standard" weight):

Young hens, 11-1/2 pounds.	Yearling hens, 12-1/2 pounds.	Adult hens, 13 pounds.
Young toms, 21 pounds.	Yearling toms, 24 pounds.	Adult toms, 25 pounds.

Conformation:-Compact body with moderately short legs, relatively long keel bone, and an abundance of meat, especially on the breast and legs.

Early maturity:-In finished (U.S. Prime) condition at the age of 24 weeks with respect to fat, fleshing, and feathering.

Performance:-Reasonably high egg production, 60 percent from beginning of laying to June 1.

High fertility, 95 percent or more.

High hatchability, 85 percent or more of fertile eggs.

High viability, 85 percent or more of all poults started.

Egg characteristics:-Smooth, strong shells, normal shape, medium size, average egg weight during the first season of 34 oz. per doz. (80.3 gm. each) with a minimum of 32 oz. (75.6 gm. each) and a maximum of 36 oz. (85.1 gm. each).

Color:-Plumage white; legs and feet pinkish white, deep pink in adults; eyes medium brown; beak light reddish brown; beard black; skin white to yellowish.

Color of day-old poults:-Down a clear lemon yellow in all sections or a lemon yellow to yellowish white more or less suffused with tan on upper surfaces; beak pale flesh color, brownish through middle of upper surface; legs and toes pale flesh color; eyes leaden color, iris nearly black.

Performance of the Small White Turkey

Feed consumption of young turkeys during the growing period:-Experiments at the Beltsville and other stations have shown that Beltsville Small White turkeys require slightly more feed per pound of turkey produced at any given age than do the larger varieties. However, since they mature 2 to 4 weeks ahead of the large strains this disadvantage is largely overcome. Market maturity is reached in 24-26 weeks by Beltsville Small White turkeys and in 28-30 weeks by standardbred turkeys and the Broad Breasted Bronze. The following table shows feed consumption data from flocks of turkeys of both sexes in approximately equal numbers raised by standard methods and sustaining a mortality averaging about 18 percent from hatching time to market age:

Comparison of Feed Consumption of Different Varieties of Turkeys from Hatching Time to Market Age, Both Sexes. (All weights are pounds live weight)

Variety	Management	24 weeks		26 weeks		28 weeks		30 weeks	
		Average weight: pound	Feed per pound: Average	Average weight: pound	Feed per pound: Average	Average weight: pound	Feed per pound: Average	Average weight: pound	Feed per pound: Average
Beltsville Small White	Confinement	10.66	5.16	11.70	5.39	12.55	5.73	-----	-----
	Range	10.86	4.62	12.04	4.74	13.24	4.84	-----	-----
Standardbred Bronze	Confinement	14.01	4.65	15.34	4.96	16.53	5.34	17.17	5.77
	Range	14.20	4.01	15.46	4.25	16.69	4.55	-----	-----
Broad Breasted Bronze	Confinement	16.39	4.48	17.92	4.76	19.06	5.13	19.94	5.47
	Range	18.41	3.68*	20.20	3.90*	20.36	4.40*	-----	-----

* Data from Dominion Experimental Farm, Ottawa, Ont., Canada

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Feed consumption during the breeding season:-Experiments at the Agricultural Research Center show that feed consumption by breeding birds of different varieties was directly proportional to the maximum live body weight of the birds, being approximately 0.031 pound of feed per day per pound of live weight for flocks mated at the rate of 19 to 21 hens to one tom. Per bird per day Beltsville Small White turkeys ate 0.37 pound of feed, White Hollands 0.44 pound, standardbred Bronze 0.51 pound, and Broad Breasted Bronze 0.54 pound. Feed cost per egg, assuming equal egg production, is therefore about 25 percent less for the small stock than for the large.

Egg production:-In the breeding pens during 1942 Beltsville Small White young hens laid an average of 62.0 eggs in a breeding season of about 120 days. Hatchability was 86.2 percent of fertile eggs and 75.2 percent of total eggs. In 1944 individual records of 211 and 205 eggs per calendar year were obtained from two hens and 14 percent of the experimental flock laid more than 90 eggs to June 1, with artificial lighting starting early in December.

Dressing shrinkage and percentage of edible meat:-Beltsville Small White turkeys of both sexes lost an average of 11.4 percent of their fasted weight during dressing as compared to 11.4 percent for White Holland, 9.9 percent for standardbred Bronze and 8.9 percent for Broad Breasted Bronze. Drawing losses averaged 14.6 percent of dressed chilled weight for Beltsville Whites, 15.3 percent for White Hollands, 15.1 percent for standardbred Bronze and 13.0 percent for Broad Breasted Bronze. In percentages of breast meat of dressed weight, the four varieties averaged 19.3, 18.4, 18.2, and 22.4 respectively for Small Whites, White Holland, standardbred Bronze and Broad Breasted Bronze. In leg meat the percentages were 18.2, 18.4, 19.28, and 20.10 respectively.

Growth rate:-Average weights of typical Beltsville Small White turkeys grown under standard conditions were as follows:

Age in Weeks	Males pounds	Females pounds	Both sexes in equal numbers pounds
1/7 (one day)	.11	.11	.11
2	.33	.29	.31
4	.86	.72	.79
8	2.99	2.23	2.61
12	5.45	3.86	4.66
16	8.35	5.80	7.08
20	11.11	7.38	9.25
24	14.21	8.71	11.46
26	15.71	9.11	12.41
28	17.62	9.76	13.69
30	18.86	10.31	14.59
32	20.34	11.00	15.67
34 ("standard" weight)	21.00	11.52	16.25